

## TRANSMITTAL FORM

Attorney Docket No.  
**K35R1764**  
**2348P**In re the application of **Seagle, et al.**Confirmation No: **4063**Serial No: **10/087,505**Group Art Unit: **2652**Filed: **March 1, 2002**Examiner: **Davis, David D.**For: **Pedestal Defined Zero Throat Writer Having A Recessed Pedestal**

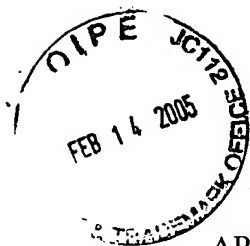
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| CLAIMS             |                                  |   |              |            |         |
|--------------------|----------------------------------|---|--------------|------------|---------|
| FOR                | Claims Remaining After Amendment | Highest # of Claims Previously Paid For | Extra Claims | RATE       | FEE     |
| Total Claims       | 0                                | 0                                       | 0            | \$ 50.00   | \$ 0.00 |
| Independent Claims | 0                                | 0                                       | 0            | \$200.00   | \$ 0.00 |
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|--|-------------------------------------|
| Attorney Name                              | Janyce R. Mitchell, Reg. No. 40,095 |
| Signature                                  |                                     |
| Date                                       | February 10, 2005                   |

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPEAL NO:

In Re Application of:

Seagle, et al.

Serial No: 10/087,505

Filed: March 1, 2002

For: PEDESTAL DEFINED ZERO THROAT WRITER HAVING A  
RECESSED PEDESTAL

**APPELLANT'S BRIEF**

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPEAL NO:

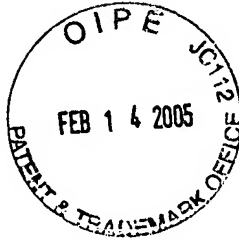
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For: PEDESTAL DEFINED ZERO THROAT WRITER HAVING A  
RECESSED PEDESTAL



Date: February 10, 2005

Confirmation No: 4063

Group Art Unit: 2652

Examiner: Davis, D.D.

Mail Stop Appeal Brief – Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPELLANT'S BRIEF ON APPEAL**

Sir:

Appellant herein files an Appeal Brief drafted in accordance with the provisions of 37 C.F.R. § 1.192(c) as follows:

**I. REAL PARTY IN INTEREST**

Appellant respectfully submits that the above-captioned application is assigned, in its entirety to Western Digital, Corporation of Fremont, California.

## **II. RELATED APPEALS AND INTERFERENCES**

Appellant states that, upon information and belief, he is not aware of any co-pending appeal or interference which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

## **III. STATUS OF CLAIMS**

Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 are pending. Application Serial No. 10/087,505 (the instant application) as originally filed included claims 1-11. In an Amendment in response to an Office Action dated December 24, 2003, claims 1, 6, and 12 were amended. Claims 1 and 6 were amended to recite that the second pole has a bottom surface. Claims 1 and 6 were also amended to recite that a portion of the bottom surface extends over the pedestal, along the gap beyond the back of the pedestal and is substantially flat such that a zero throat height of the write head is defined by the pedestal. No amendment was made in response to the Final Office Action dated June 16, 2004. Claims 1-11 are on appeal and all applied prospective rejections concerning claims 1-11 are herein being appealed.

## **IV. STATUS OF AMENDMENT**

There were no proposed Amendments made in response to the Final Office Action.

## **V. SUMMARY OF THE INVENTION**

The present invention provides a method and system for providing a pedestal defined zero throat (PDZT) write head. The method and system comprise providing a first pole having a pedestal, providing a gap and providing a second pole. The first pole has a pedestal. The gap

separates the pedestal of the first pole from a portion of the second pole. The pedestal has a front, a back, a top and a bottom. The back of the pedestal has a recess therein, which runs from the top of the pedestal to the bottom of the pedestal. The second pole has a substantially flat bottom which extends over the gap and beyond the back of the pedestal. Thus, the back of the pedestal also defines the zero throat height. Such a PDZT head may have improved performance in the form of a lower rise time, improved writeability, and reduced inadvertent erasing of adjacent tracks. Specification, page 5, lines 11-19.

Figures 1A-1B depict a conventional PDZT head. The zero throat position 50 is defined by the position at which the pedestal 12 diverges from P2 30. Specification, page 1, lines 20-21 and Figure 1A. Because of the location of the zero throat position 50, the conventional PDZT head 10 has reduced writeability, a lower rise time, and inadvertent erasure of adjacent tracks. Specification, page 2, lines 1-9.

Figures 2A-2B of the present application depict a PDZT write head 100. The PDZT head 100 illustrates advantages of the method and system in accordance with one embodiment of the present invention. The PDZT head 100 includes a first pole P1 110 that includes a pedestal 112 having a recess 114 therein. Because the pedestal 112 is thinner near the write gap 140, less flux may be carried through the pedestal. Specification, page 6, lines 18-10. In addition, because the edges of the recess lie outside of the second pole, the poles are less likely to short. Specification, page 5, lines 20-22. Consequently, the rise time for the coils is reduced, writeability improved, inadvertent erasing of adjacent tracks is reduced, and fabrication of the PDZT head 100 simplified. Specification, page 5, lines 10-24.

Figures 3A-3B depicts a second embodiment of a PDZT head 150. The recess 164 is thinner, having its edges under the second pole. Despite the difference in the shapes of the

recesses 164 and 112, the PDZT head 150 shares many of the benefits of the PDZT head 100 due to the presence of the recess 162. Consequently, the rise time for the coils is reduced, writeability improved, and inadvertent erasing of adjacent tracks is reduced. Specification, page 6, line 17-page 7, line 2.

## **VI. ISSUES**

The issues presented are whether claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 are each unpatentable under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,624,971 (Sasaki).

## **VII. GROUPING OF CLAIMS**

Appellant hereby states that claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 constitute one group.

## **VIII. ARGUMENTS**

### **A. Summary of the Applied Rejections**

In the Final Office Action, dated June 16, 2004, the Examiner rejected Claims 1-11 under 35 U.S.C. § 102 as being anticipated by Sasaki. In particular, the Examiner cited Figs. 3A, 4A, 6, and 14 of Sasaki as showing as anticipating claims 1-11. The Examiner cited Figs. 6 and 14 in his rejection of claims 1 and 6. With respect to Fig. 6, the Examiner cited the recess 60 as being analogous to the recited recess, item 7 as a first pole, and item 27A as the pedestal. With respect to Fig. 14, the Examiner cited item 27C as the second pole. In his rejection of the remaining claims, the Examiner indicated that Fig. 3A depicts the coil 28 and indicated that Figs. 4A and 6 teaches the edges of the recess 60 being outside of the edges of the second pole.

Appellant respectfully requests that the Board reverse the Examiner's final rejection of claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 under 35 U.S.C. § 102.

## **B. The Cited Prior Art**

Sasaki teaches a write head. For example, items 7 and 9 of Figs. 4A, 6, 13, and 14 of Sasaki are the first (bottom) pole and the write gap. However, Sasaki states that the top pole tip includes item 27A and is shaped with a recess 60. Sasaki, col. 11, lines 13-19 and Figures 5-9. Thus, item 27A is a pole tip for the second pole. Furthermore, Sasaki states that this top pole tip is used as a mask to form a trim structure on the first, bottom pole. Sasaki, col. 11, lines 39-43. Thus, as depicted in Figure 6 of Sasaki, the bottom pole 7 includes a raised portion that is under item 9 and shares the shape of the pole tip 27A. This portion of the head is termed a trim structure in Sasaki. Consequently, to the extent a pedestal exists in for the first pole in Fig. 6 of Sasaki, the pedestal would be the "trim structure" discussed in col. 11, lines 39-43 of Sasaki and depicted in Fig. 6 of Sasaki. Thus, as is shown in Fig. 6 of Sasaki, the trim structure has the same shape as the pole tip of the second pole.

Fig. 13 of Sasaki depicts a first modification of the head. Sasaki, col. 17, lines 60-61. The modification is that the trim structure extends sideways to the edges of the first pole 7. Sasaki, col. 18, lines 1-4. Furthermore, the trim structure is formed using only the forward portion (closer to the air-bearing surface) of the pole tip 27A. Thus, the trim structure depicted in Fig. 13 of Sasaki does not include the notch 60 at the rear. However, the pole tip 27A for the second pole is still present.

Fig. 14 also depicts a write head having a pole tip 27A for the second pole. Sasaki's discussion of Fig. 14 states that the modification is that the "position of the edge face 22 on the front side (air bearing surface side) in the connection portion 27C(2) of the top pole 27C may cross the



position of the edge face T1 and extend so as to overlap a part of the intermediate coupling portion 27A(2).” Sasaki, col. 18, lines 46-51. Fig. 14 of Sasaki thus describes a change in the location at which the top portion of the second pole, item 27C, attaches to the pole tip 27A. The pole tip 27A is presumably still utilized as a trim structure for the first, bottom pole 7.

**C. Claims 1-11 Are Not Anticipated Under 35 U.S.C. § 102.**

Appellant respectfully submits that the applied rejections of claims 1 and 6 under 35 U.S.C. § 102 are not proper because the Examiner can not explain why Sasaki teaches or suggests the methods recited in claims 1 and 20. With respect to claim 1, Chen in view of Ito neither teaches nor suggests a PDZT head including “a first pole having a pedestal, the pedestal having a front, a back, a top and a bottom, the back of the pedestal having a recess therein, the recess running from the top of the pedestal to the bottom of the pedestal . . .” in combination with “a second pole . . . [having] a bottom surface, a portion of the bottom surface extending over the pedestal and along the gap beyond the back of the pedestal and being substantially flat such that a zero throat height of the write head is defined by the pedestal.”

In the Final Office Action, the Examiner cited Sasaki, which fails to teach or suggest the above-mentioned elements of claims 1 and 6. Consequently, despite some superficial similarities in the cited reference and the present invention as recited in claims 1 and 6, claims 1 and 6 are not anticipated by Sasaki. Figs. 6 and 14 of Sasaki fail to teach or suggest the PDZT head and method recited in claims 1 and 6. The head of Sasaki depicted in Figs. 6 and 14 includes a second pole tip 27A that has a recess 60 therein, as well as a trim structure that is part of the first pole 7 and lies below the pole tip 27A. Because the entire pole tip 27A of Sasaki is used in forming the trim structure of Figs. 6 and 14, the shape of the trim structure matches the shape of

the pole tip 27A. Thus, the trim structure of Figs. 6 and 14 includes a back having a recess. Further, the trim structure is raised from the remainder of the first pole 7. Thus, the trim structure of Figs. 6 and 14 can be considered to be a pedestal for the underlying first pole 7. However, the pole tip 27A is part of the second pole and has a matching recess 60. Consequently, second pole does not have a bottom surface, a portion of which extends over the pedestal and along the gap beyond the back of the pedestal and which is substantially flat such that a zero throat height of the write head is defined by the pedestal. Thus, the heads depicted in Figs. 6 and 14 of Sasaki do not include both the recited pedestal and the recited second pole.

Appellant also notes that in discussing Figs. 6 and 14, the Examiner cited item 27A as being part of the first pole, and 27C as being part of the second pole. However, Sato states that item 27A is the pole tip that is “part of” the top, second pole, 27C. Sato, col. 11, line 8. Consequently, Applicant respectfully submits that the Examiner’s citation of item 27A as being part of the bottom, first pole and 27C as being part of the second pole is inapposite. Despite the Examiner’s citation, therefore, Appellant respectfully submits that as discussed above, Figs. 6 and 14 of Sato fail to teach or suggest the PDZT head and method recited in claims 1 and 6.

Fig. 13 of Sasaki depicts a trim structure that does not have a rear portion that includes the notch 60. Because the trim structure is missing the rear portion, there is arguably no pedestal, much less a recess, that is part of the first pole of Sasaki. Stated differently, the trim structure is not the recited pedestal including the recess. Moreover, the pole tip 27A for the second pole is still part of the head in Fig. 13 of Sasaki. Consequently, second pole still does not have a bottom surface, a portion of which extends over the pedestal and along the gap beyond the back of the pedestal and which is substantially flat such that a zero throat height of the write head is defined by the pedestal. The head of Fig. 13 thus fails to have either the recited pedestal of the first pole

or the recited second pole. Fig. 13 of Sasaki also fails to teach or suggest the recited PDZT head and method of claims 1 and 6. Moreover, the remaining portions of Sasaki suffer from similar defects as Figs. 6, 13, and 14. Consequently, Sasaki fails to teach or suggest the PDZT and method recited in claims 1 and 6, respectively. Accordingly, Appellant respectfully submits that claims 1 and 6, respectively, are allowable over the cited references.

Claims 2, 3, 4, and 5 depend on independent claim 1. Claims 7, 8, 9, 10 and 11 depend on independent claim 6. Consequently, claims 2-5 and 7-11 are allowable for the same reasons discussed above with respect to claim 1.

Accordingly Appellant respectfully requests that the Board reverse the final rejection of claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 under 35 U.S.C. § 102.

#### **E. Summary of Arguments**

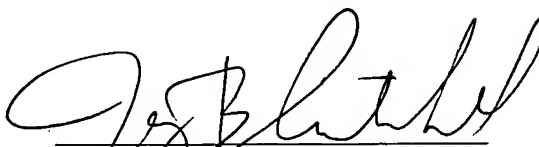
For all the foregoing reasons, it is respectfully submitted that claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 (all the claims presently in the application) are patentable for defining subject matter which would not have been anticipated under 35 U.S.C. § 102(e) and would have been nonobvious under 35 U.S.C. § 103 at the time the subject matter was invented. Thus, Appellant respectfully requests that the Board reverse the rejection of all the appealed claims and find each of these claims allowable.

Note: For convenience of detachment without disturbing the integrity of the remainder of pages of this Appeal Brief, Appellant's "APPENDIX" section is contained on separate sheets following the signatory portion of this Appeal Brief.

This Brief is being submitted in triplicate, and authorization for payment of the required Brief fee is contained in the transmittal letter for this Brief. Please charge any fee that may be necessary for the continued pendency of this application to Deposit Account No. 02-2120 (Sawyer Law Group LLP).

Very truly yours,

SAWYER LAW GROUP LLP

A handwritten signature in black ink, appearing to read 'J. Mitchell', written over a horizontal line.

Janyce R. Mitchell  
Attorney for Appellants  
Reg. No. 40,095  
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February 10, 2005

## **IX. APPENDIX**

1. A pedestal defined zero throat write head comprising:

a first pole having a pedestal, the pedestal having a front, a back, a top and a bottom, the back of the pedestal having a recess therein, the recess running from the top of the pedestal to the bottom of the pedestal;

a second pole;

a gap separating the pedestal of the first pole from a portion of the second pole;

wherein the second pole has a bottom surface, a portion of the bottom surface extending over the pedestal and along the gap beyond the back of the pedestal and being substantially flat such that a zero throat height of the write head is defined by the pedestal.

2. The pedestal defined zero throat write head of claim 1 wherein the recess includes a first edge and a second edge, the first edge and the second edge being directly under a portion of the second pole.

3. The pedestal defined zero throat write head of claim 1 wherein the recess includes a first edge and a second edge, the first edge and the second edge being outside of the second pole.

4. The pedestal defined zero throat write head of claim 1 wherein the second pole further includes a nose and wherein a portion of the pedestal is directly under the nose.

5. The pedestal defined zero throat write head of claim 1 further comprising:

at least one coil between the first pole and the second pole.

6. A method for providing pedestal defined zero throat write head comprising the steps of:

(a) providing a first pole having a pedestal, the pedestal having a front, a back, a top and a bottom, the back of the pedestal having a recess therein, the recess running from the top of the pedestal to the bottom of the pedestal;

(b) providing a gap above the pedestal;

(c) providing a second pole, the gap separating the pedestal from a portion of the second pole;

wherein the second pole providing step (c) further includes the step of:

(c1) providing the second pole such that the second pole has a bottom surface, a portion of the bottom surface extending over the pedestal and along the gap beyond the back of the pedestal and being substantially flat such that a zero throat height of the write head is defined by the pedestal.

7. The method of claim 6 wherein the first pole providing step (a) further includes the steps of:

(a1) depositing the pedestal; and

(a2) removing a portion of the pedestal to provide the recess.

8. The method of claim 6 wherein the first pole providing step (a) further includes the step of:

(a1) providing the recess having a first edge and a second edge such that the first edge and the second edge are directly under a portion of the second pole.

9. The method of claim 6 wherein the first pole providing step (a) further includes the step of:

(a1) providing the recess having a first edge and a second edge such that the first edge and the second edge are outside of the second pole.

10. The method of claim 1 wherein the second pole providing step (c) further includes the step of:

(c2) providing a nose such that a portion of the pedestal is directly under the nose.

11. The method of claim 6 further comprising the step of:

(d) providing at least one coil between the first pole and the second pole.